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SNOW SURVEYS and WATER SUPPLY OUTLOOK for ALASKA



U.S. DEPT. OF AGRICULTURE
MAY 25 1977

U. S. DEPARTMENT of AGRICULTURE ★ SOIL CONSERVATION SERVICE
Collaborating with
ALASKA SOIL CONSERVATION DISTRICT

Data included in this report were obtained by the agencies named above in cooperation with Federal, State and private organizations listed inside the back cover of this report.

AS OF
MAY 1, 1977

TO RECIPIENTS OF WATER SUPPLY OUTLOOK REPORTS:

Most of the usable water in western states originates as mountain snowfall. This snowfall accumulates during the winter and spring, several months before the snow melts and appears as streamflow. Since the runoff from precipitation as snow is delayed, estimates of snowmelt runoff can be made well in advance of its occurrence. Streamflow forecasts published in this report are based principally on measurement of the water equivalent of the mountain snowpack.

Forecasts become more accurate as more of the data affecting runoff are measured. All forecasts assume that climatic factors during the remainder of the snow accumulation and melt season will interact with a resultant average effect on runoff. Early season forecasts are therefore subject to a greater change than those made on later dates.

The snow course measurement is obtained by sampling snow depth and water equivalent of surveyed and marked locations in mountain areas. A total of about ten samples are taken at each location. The average of these are reported as snow depth and water equivalent. These measurements are repeated in the same location near the same dates each year.

Snow surveys are made monthly or semi-monthly from January 1 through June 1 in most states. There are about 1900 snow courses in Western United States and in the Columbia Basin in British Columbia. Networks of automatic snow water equivalent and related data sensing devices, along with radio telemetry are expanding and will provide a continuous record of snow water and other parameters at key locations.

Detailed data on snow course and soil moisture measurements are presented in state and local reports. Other data on reservoir storage, summaries of precipitation, current streamflow, and soil moisture conditions at valley elevations are also included. The report for Western United States presents a broad picture of water supply outlook conditions, including selected streamflow forecasts, summary of snow accumulation to date, and storage in larger reservoirs.

Snow survey and soil moisture data for the period of record are published by the Soil Conservation Service by states about every five years. Data for the current year is summarized in a West-wide basic data summary and published about October 1 of each year.

COVER PHOTO: SNOW COURSE MEASUREMENTS BY A SURVEY TEAM IN UTAH'S WASATCH RANGE.
ORC-254-10

PUBLISHED BY SOIL CONSERVATION SERVICE

The Soil Conservation Service publishes reports following the principal snow survey dates from January 1 through June 1 in cooperation with state water administrators, agricultural experiment stations and others. Copies of the reports for Western United States and all state reports may be obtained from Soil Conservation Service, West Technical Service Center, Room 510, 511 N.W. Broadway, Portland, Oregon 97209.

Copies of state and local reports may also be obtained from state offices of the Soil Conservation Service in the following states:

STATE	ADDRESS
Alaska	Room 129, 2221 East Northern Lights Blvd., Anchorage, Alaska 99504
Arizona	Room 3008, 6029 Federal Building, Phoenix, Arizona 85025
Colorado (N. Mex.)	P. O. Box 17107, Denver, Colorado 80217
Idaho	Room 345, 304 N. 8th. St., Boise, Idaho 83702
Montana	P. O. Box 98, Bozeman, Montana 59715
Nevada	P. O. Box 4850, Reno Nevada 89505
Oregon	1220 S.W. Third Ave., Portland, Oregon 97204
Utah	4012 Federal Bldg., 125 South State St., Salt Lake City, Utah 84138
Washington	360 U.S. Court House, Spokane, Washington 99201
Wyoming	P. O. Box 2440, Casper, Wyoming 82602

PUBLISHED BY OTHER AGENCIES

Water Supply Outlook reports prepared by other agencies include a report for California by the Water Supply Forecast and Snow Surveys Unit, California Department of Water Resources, P. O. Box 388, Sacramento, California 95802 --- and for British Columbia by the Department of Lands, Forests and Water Resources, Water Resources Service, Parliament Building, Victoria, British Columbia



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SNOW SURVEYS

AND

WATER SUPPLY OUTLOOK

FOR

ALASKA

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ALASKA RANGE NEAR RAINY PASS

ALASKA SUMMARY
as of
MAY 1, 1977

A very heavy snowpack remains in many areas across the State. In striking contrast a lean snow belt exists between the Alaska Range and Yukon River.

Snowfall for the month of April was highly localized and variable. Mountain snow courses indicate April being cooler than normal, although valley snowpack is gone in many places. Breakup, as compared to last year, is generally way behind, but some southern valleys are ahead.

Snowmelt runoff from drainages south of the Alaska Range will be much greater than usual with clearwater streams remaining high much later than usual. Meanwhile, the coming spring and summer stream flow in the Fairbanks area will be approximately 30 percent below normal.

There is a great potential in the mountains along Alaska's Gulf Coast for huge climax-type avalanches as the extremely heavy, high elevation snowpack warms up in May and early June.

A special reconnaissance survey of the snowcover on Alaska's western north slope was recently completed by the U. S. Geological Survey. The preliminary, unchecked data of this first-ever snow survey of that region is listed on page 11-12.

More specific information by regions is as follows:

Koyukuk and Yukon Drainages

Snowpack in the head waters of the Koyukuk is well above average while pipeline corridor courses indicate the Brooks Range foothills slightly above average. The east end of the Range remains covered by a very heavy snowpack.

Tanana-Chena Drainages

April precipitation in the region was spotty but most areas received at least average or slightly above the normal monthly increment. As a result, the Chena River forecast is up 7% from a month ago to an expected 29% deficit of average. This expected April through July flow; however, is 9% greater than that recorded for the same period last year.

In contrast, drainages such as the Delta River with high elevation headwaters in the Alaska Range should flow well above normal during the snowmelt period. A cooler than normal April has kept streamflow pretty much limited to valley bottom snow melt.

Copper Drainage

April snowfall was also highly variable in the Copper Drainage. Most snow courses within the basin are in a range of 30 to 60 percent above normal, while the surrounding mountains are 40 to 100 percent above. Last years May 1 readings are generally less than half this years.

Matanuska-Susitna Drainages

Snowpack throughout the region is generally 30 to 60 percent above normal and all areas way heavier than last year. The lower Susitna Valley is one of the heaviest areas percentage wise.

Upper Cook Inlet Kenai Peninsula and Prince William Sound

The snowpack in the Kenai, Chugach and St. Elias Mountains above 1500 feet is most unusual. The Wolverine Glacier snow courses are of particular interest, being much higher and a better index than any others in the region. These courses were last measured by the U. S. Geological Survey on February 25th at which time the highest of the three, at an elevation of 4430 feet, measured 406 inches depth and 183 inches snowpack water content. This was almost twice as great as the previous maximum in the past 13 years for March 1st and about 300 percent of normal.

Snow courses to the east and west indicate the region has continued to receive snow at a record pace ever since, although the rate slowed markedly during April. Many courses including those around Valdez, others on the Kenai Peninsula and in the Ship Creek drainage near Anchorage show a maximum snowpack for their period of record. The Wolverine Glacier courses are next scheduled to be measured in late May or early June.

The Ship Creek drainage is now forecast to flow 91,000 acre feet or 54 percent above average for the April through July period. This is a percent higher than the forecast last month. Indian Pass snow course, indicative of Ship Creek headwaters, is not only maximum of record for the past eleven years, it is 40 percent greater than the previous maximum recorded in 1968. At the same time, median elevations within the drainage are only slightly above average.

The Valdez area has the heaviest recorded low-elevation snowpack in the State. The Valdez course, located a short ways out of town, had better than 6 feet of snow and 2-1/2 feet of water on the ground. This is 20 percent higher than the previous heavy year of 1972.

Southeast

Snow conditions in the Juneau area are very near average amounts for May 1st. This is approximately 30 percent below last years heavy snowpack.

STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR			PAST RECORD	
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year ^{2/}	Average [†]
YUKON RIVER at Eagle	30,000	8.6%	April-July	35,920	34,925
PORCUPINE RIVER near Ft. Yukon	8,500	118%	April-July	8,949	7,200*
SALCHA RIVER near Salchaket	500	65%	April-July	428	767
CHENA RIVER at Fairbanks	400	71%	April-July	348	560
LITTLE CHENA RIVER near Fairbanks	76	82%	April-July	69	93*
YUKON RIVER at Ruby	70,000	105%	April-July	58,420	67,012
SHIP CREEK near Anchorage ^{1/}	91	154%	April-July	54	59
SOUTH FORK CAMPBELL CREEK at Canyon Mouth near Anchorage	21.5	162%	April-July	12.5	13.3

^{1/} Measured flow adjusted for diversion.

^{2/} Provisional data, subject to revision.

* Estimated.

SNOW

DRAINAGE BASIN and/or SNOW COURSE				THIS YEAR			PAST RECORD		
				Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)		Years of Previous Record
NAME	Number	Elevation					Last Year	Average [†]	
AS OF APRIL 15, 1977									
<u>KOYUKUK DRAINAGE:</u>									
Anaktuvuk Pass	75	2100		4/18	31	7.0	N/S	---	0
Cold Foot Camp	109	1000		4/15	31	6.0	7.1	---	2
Dietrich Camp	110	1550		4/15	27	4.7	4.3	---	2
Prospect Creek Camp	108	980		4/15	33	6.9	7.0	---	1
Table Mountain	111	2200		4/15	27	5.0	5.5	---	1
<u>TANANA-CHENA:</u>									
Caribou Mine	55	1115		4/15	19a	4.5e	3.3e	4.8	11
Cleary Summit	64	2230		4/15	29a	6.4e	6.7e	7.2	14
Little Chena	62	2200		4/15	32a	7.0e	5.3e	5.7	15
Lower Chena	59	2000		4/15	27a	5.5e	---	---	0
Mt. Ryan	61	2950		4/15	37a	8.0e	5.9e	8.1	15
Munson Ridge	56	3100		4/15	38a	8.8e	14.6e	15.5	15
Teuchet Creek	57	1640		4/15	18a	4.3e	---	---	0
Upper Chena	58	3000		4/15	38a	8.4e	8.4e	6.8	7
<u>YUKON DRAINAGE:</u>									
Five Mile	106	400		4/15	32	6.6	N/S	---	0
Thirty Mile	107	1300		4/15	39	9.0	N/S	---	0
AS OF MAY 1, 1977									
<u>KOYUKUK DRAINAGE:</u>									
Cold Foot Camp	109	1000		5/1	25	5.9	5.5	5.7	6
Dietrich Camp	110	1550		5/1	20	4.4	0.0	2.0	6
Prospect Creek Camp	108	980		5/1	27	7.0	3.5	6.0	6
Table Mountain	111	2200		5/1	25	5.7	3.0	3.8	4
<u>YUKON DRAINAGE:</u>									
Five Mile	106	400		5/1	21	6.5	0.0	3.7	5
Log Cabin	105	2880		4/27	34	11.2	14.6	11.8	19
Thirty Mile	107	1300		5/1	37	9.1	N/S	---	3
a - aerial marker									
e - estimated									
				N/S	No Survey				

[†] 1958-1972 period.

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD		
NAME	Number	Elevation	Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)		Years of Previous Record
						Last Year	Average †	
TANANA-CHENA:								
Big Delta	52	980	4/27	0	0.0	0.0	0.3	16
Bonanza Creek	66	1150	5/5	6	1.7	0.0	3.8	9
Caribou Creek	68	1440	4/28	11	3.1	0.0	2.9	6
Caribou Mine	55	1115	4/25	13	4.9	0.0	4.6	11
Cleary Summit	64	2230	4/26	23	6.4	N/S	7.9	16
Colorado Creek	63	750	4/25	14	3.7	0.0	3.4	11
Fielding Lake	49	3000	4/27	57	17.7	8.0	12.7	16
Fort Greely	50	1420	4/27	0	0.0	0.0	1.4	10
French Creek	53	2010	4/27	16	4.6	0.0	5.9	14
Granite Creek	51	1240	4/28	0	0.0	0.0	1.2	9
Haystack Mountain	67	1950	4/29	21	5.2	3.6	7.5	7
Little Chena	62	2200	N O	S U R V E Y		N/S	6.1	15
Lower Chena	59	2000	4/25	17	5.2	N/S	---	0
Little Salcha	54	1500	4/27	9	2.5	0.0	4.1	14
Mentasta Pass	47	2430	4/27	32	9.7	0.3	5.6	15
Monument Creek	60	1900	N O	S U R V E Y		N/S	5.4	4
Mt. Ryan	61	2950	N O	S U R V E Y		N/S	9.0	15
Munson Ridge	56	3100	4/25	37	10.3	11.3	15.6	15
Poker Creek (CRREL)	69	1025	4/28	11	2.5	0.0	2.9	7
Teuchet Creek	57	1640	4/25	13	4.1	0.0	2.8	4
Tok Junction	46	1650	4/27	0	0.0	0.0	1.4	15
Upper Chena	58	3000	4/25	31	9.0	N/S	9.5	9
Yak Pasture	65	540	4/25	0	0.0	0.0	2.1	16
COPPER RIVER:								
Haggard Creek	48	2540	4/27	28	8.5	0.6	5.1	11
Little Nelchina	31	4160	4/27	38a	9.1e	5.2e	6.0	8
Mankomen Lake	45	3050	DELAYED REPORT			3.4	6.9	9
St. Anne's Lake	28	1990	4/27	12a	3.0e	2.8e	3.1	11
Sanford River	27	2280	4/27	18a	4.5e	0.6e	3.1	10
Tsaina River	35	1500	4/27	64	23.1	12.3	12.5	5
Worthington Glacier	36	2400	4/27	98	41.9	23.0	20.8	19
MATANUSKA-SUSITNA:								
Alexander Lake	18	200	4/27	44a	14.5e	9.6e	9.2	11
Bald Mountain Lake	23	2150	4/27	56a	15.7e	5.4e	9.4	12
Chelatna Lake	20	1650	4/27	35a	11.2e	10.8e	10.6	11
Clearwater Lake	26	3100	4/27	19a	4.4e	3.2	4.5	12
Devils Canyon	121	1350	4/27	39a	9.4e	N/S	---	0
Fog Lakes #2	24	2250	4/27	29a	7.5e	3.5e	6.0	7
Independence Mine	33	3300	4/28	83	30.7	20.5	22.3	7
Lake Louise	29	2400	4/27	20	4.5	2.2	3.4	12
Monahan Flat	25	2710	4/27	38	10.1	6.6	7.7	12
Oshetna Lake	30	2950	4/27	21	4.8	2.2e	3.5	12
Peters Hills	21	2010	4/27	68a	22.4e	16.5e	16.9	9
Sheep Mountain #2	34	2900	4/27	27	6.5	4.4	3.9	5
Skwentna	19	160	4/27	36	11.0	6.7	7.0	10
Talkeetna	22	350	4/27	28	8.1	6.1	6.8	10
Willow Airstrip	32	150	4/27	21	6.0	0.0	3.2	11
PRINCE WILLIAM SOUND:								
Lowe River	37	550	4/27	63	24.3	13.4	11.9	4
Valdez	38	50	4/27	76	30.3	17.7	13.3	4
a - aerial marker			e - estimated			N/S - No Survey		

+ 1958-1972 period.

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD		
			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)		Years of Previous Record
NAME	Number	Elevation				Last Year	Average †	
<u>UPPER COOK INLET DRAINAGES:</u>								
Arctic Ski Bowl	5	3000	4/30	51	18.2	11.0	12.7	12
Arctic Valley #1	1	500	4/30	0	0.0	0.0	0.3	12
Arctic Valley #2	2	1000	4/30	0	0.0	0.0	0.7	12
Arctic Valley #3	3	2030	4/30	19	5.8	1.2	3.0	12
Arctic Valley #4	4	2330	4/30	25	7.4	2.3	4.0	12
Bird Creek	8	2350	4/28	55	22.7	23.7	19.2	10
Indian Pass	7	2350	4/28	87	36.7	25.5	23.1	10
McArthur	17	120	4/27	55a	20.4e	18.5e	16.2	10
Mt. Alyeska	10	1200	4/29	131	56.3	44.7	44.9	4
Ship Creek	6	1750	4/28	34	12.2	12.5	11.0	10
South Campbell Creek	9	1200	4/28	15	4.9	5.4	6.4	4
<u>KENAI PENINSULA:</u>								
Bertha Creek	11	850	4/29	53	19.7	20.4	17.0	6
Bridge Creek, Lower	16	1100	4/28	48	17.1	14.4	12.9	5
Bridge Creek, Upper	15	1300	4/28	48	17.8	14.6	12.9	5
Jean Lake	14	620	4/29	0	0.0	0.0	1.2	7
Kenai Summit	12	1390	4/29	49	17.3	12.4	10.7	7
Moose Pass	13	700	4/29	0	0.0	5.1	3.7	7
<u>SOUTHEAST ALASKA:</u>								
Cropley Lake	94	1650	5/3	37	16.3	N/S	---	0
Douglas Ski Bowl	93	1640	5/3	98	45.9	66.1	43.0	9
Eagle Crest	95	1000	5/3	0	0.0	N/S	---	0
Fish Creek	96	500	N O	S U R V E Y	N/S	---	---	0
Lake Shore	104	660	N O	S U R V E Y	N/S	26.9	---	4
Speel River	98	280	4/30	66	30.6	47.4	32.5	11
<u>GLACIER STATIONS:</u>								
Gulkana A	42	4590	11/19	48	12.6	---	---	9
			3/21	85	29.9	---	---	9
Gulkana B	43	5480	11/19	75	23.2	---	---	9
			3/21	128	51.2	---	---	9
Gulkana C	44	6360	7/28	47	24.0	---	---	9
			11/19	96	31.5	---	---	9
			3/21	155	62.2	---	---	9
Wolverine A	39	2130	10/19	4	2.4	---	---	9
			2/23	193	104.3	---	---	9
Wolverine B	40	3610	10/15	31	10.2	---	---	9
			2/26	275	126.8	---	---	9
Wolverine C	41	4430	10/20	72	26.4	---	---	9
			2/25	406	183.1	---	---	9
<div>a - aerial marker e - estimated N/S - No Survey</div>								

† 1958-1972 period.

SNOW

SNOW			THIS YEAR			PAST RECORD		
DRAINAGE BASIN and/or SNOW COURSE			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (Inches)		Years of Previous Record
NAME	Number	Elevation				Last Year	Average †	
NORTH SLOPE:					INCREMENT		ACCUMU-	
"Wyoming" Precipitation Gages (for 1977 water year)			DATE		SINCE LAST READING		LATIVE TOTAL	
Barrow	115	15	9/20 10/20 11/23 12/23 1/22 4/3	Initial	Reading .6 1.1 .4 1.0* .7*		.6 1.7 2.1 3.1* 3.8*	
Barter Island	117	15	10/4 11/6 11/22 12/21 2/8 3/3 4/13	Initial	Reading 1.2 .2 1.7 1.1** .2 .5		1.2 1.4 3.1 4.2* 4.4 4.9	
Candle	119	20	12/30 2/18 4/7	Initial	Reading .6 .5		.6 1.1	
Kavik	118	200	10/6 11/4 11/26 12/27 1/27 2/26 4/15	Initial	Reading .8 .1 1.0 1.8 .6 .8		.8 .9 1.9 3.7 4.3 5.1	
Kugruk River	120	225	9/18 12/30 3/18 4/7	Initial	Reading 2.6 1.1 0.0		2.6 3.7 3.7	
Jago River	122		10/6 11/7 11/22 12/21 2/25 4/12	Initial	Reading 1.3 .4 1.2 1.1** .3		1.3 1.7 2.9 4.0* 4.3	
Meade River	116	200	9/20 10/21 11/23 12/23 1/21 2/5 4/2	Initial	Reading 1.0 .2 .4 1.4 .7* .6*		1.0 1.2 1.6 3.0 3.7* 4.3*	
Point Hope	123	20	11/3 12/9 2/5 2/12 2/28 3/17 3/24 4/2 4/19	Initial	Reading .2 .2 .1 .3 .2 0.0 .2 .2		.2 .4 .5 .8 1.0 1.0 1.2 1.4	
* Readings affected by rhime ice.								
** Gage found capped by rhime on this date.								

† 1958-1972 period.

SNOW

SNOW			THIS YEAR			PAST RECORD		
DRAINAGE BASIN and/or SNOW COURSE			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)		Years of Previous Record
NAME	Number	Elevation				Last Year	Average †	
NORTH SLOPE CONTINUED:					INCREMENT SINCE LAST READING		ACCUMULATIVE TOTAL	
"Wyoming" Precipitation Gages (for 1977 water year)			DATE					
Prudhoe Bay	114	30	9/18	Initial	Reading			
			11/7		1.5	1.5		
			11/23		.4	1.9		
			12/27		.8	2.7		
			1/26		1.4	4.1		
			2/26		.5	4.6		
			4/15		.8	5.4		
Sagwon	113	1000	11/11	Initial	Reading			
			1/26		1.6	1.6		
			2/27		.4	2.0		
Toolik River	112	3100	9/20	Initial	Reading			
			11/11		1.6	1.6		
			1/26		1.4	3.0		
			2/28		.3	3.3		

† 1958-1972 period.

* The Wyoming Gage is a new device for accurately collecting rain and snowfall in windy unprotected areas. It was developed during the period 1969 through 1974 near Laramie, Wyoming, by the University of Wyoming and the United States Forest Service Forest and Range Experiment Station. The study area was a barren, wind swept ridge, similar to Alaska's tundra. During this period the new design consistently caught \pm 10 percent of the "control" gages located in protected areas nearby.

The basic configuration of the gage has two concentric rings of snow fences surrounding the orifice of the precipitation storage can. The four foot snow fence "mesh" is rigidly attached to a solid framework. The outer circle is ten feet off the ground and 20 feet in diameter; the inner circle is eight feet off the ground and 10 feet in diameter. The level of the storage can orifice is seven feet above the ground surface. A precipitation gage of any standard design, whether recording or non-recording can be used.

The Wyoming Gage "works" during howling snow storms by creating a slight vacuum area within the fencing material which pulls down into the storage can the snow particles which might be traveling more nearly horizontal than vertical. Without the windscreen, the precipitation gage would collect only a small percent of falling snow during windy periods. During blowing snow conditions between storms, almost all of the moving material is passed beneath the gage.

The initial network of Wyoming gages on Alaska's North Slope has been accomplished through the efforts of Alaskan Arctic Gas Study Company and the University of Alaska's Geophysical Institute. They cooperatively established the first gages at Barrow and Meade River in late 1975. Alaskan Arctic Gas Study Company then established gages at Prudhoe Bay, and Kaktovik (Barter Island) that same year. They built two more sites in Alaska in 1976 on the Kavik and Jago Rivers. The "word" about Wyoming gages began to get around and the Soil Conservation Service installed two gages on the Seward Peninsula at Candle and the Kugruk River. The U. S. Army Cold Regions Research and Engineering Laboratory also established sites at Sagwon, Toolik River and at Point Hope.

Four additional Wyoming gages were put in operation in 1976 but data is unavailable at this time. Two are on the arctic coastal plain in Yukon Territory, installed by Alaskan Arctic Gas Study Company and two are in the Caribou-Poker Creek Research Watershed operated by the Institute of Northern Forestry in Fairbanks.

RECONNAISSANCE SNOW SURVEY DATA, WESTERN NORTH SLOPE, ALASKA - APRIL, 1977

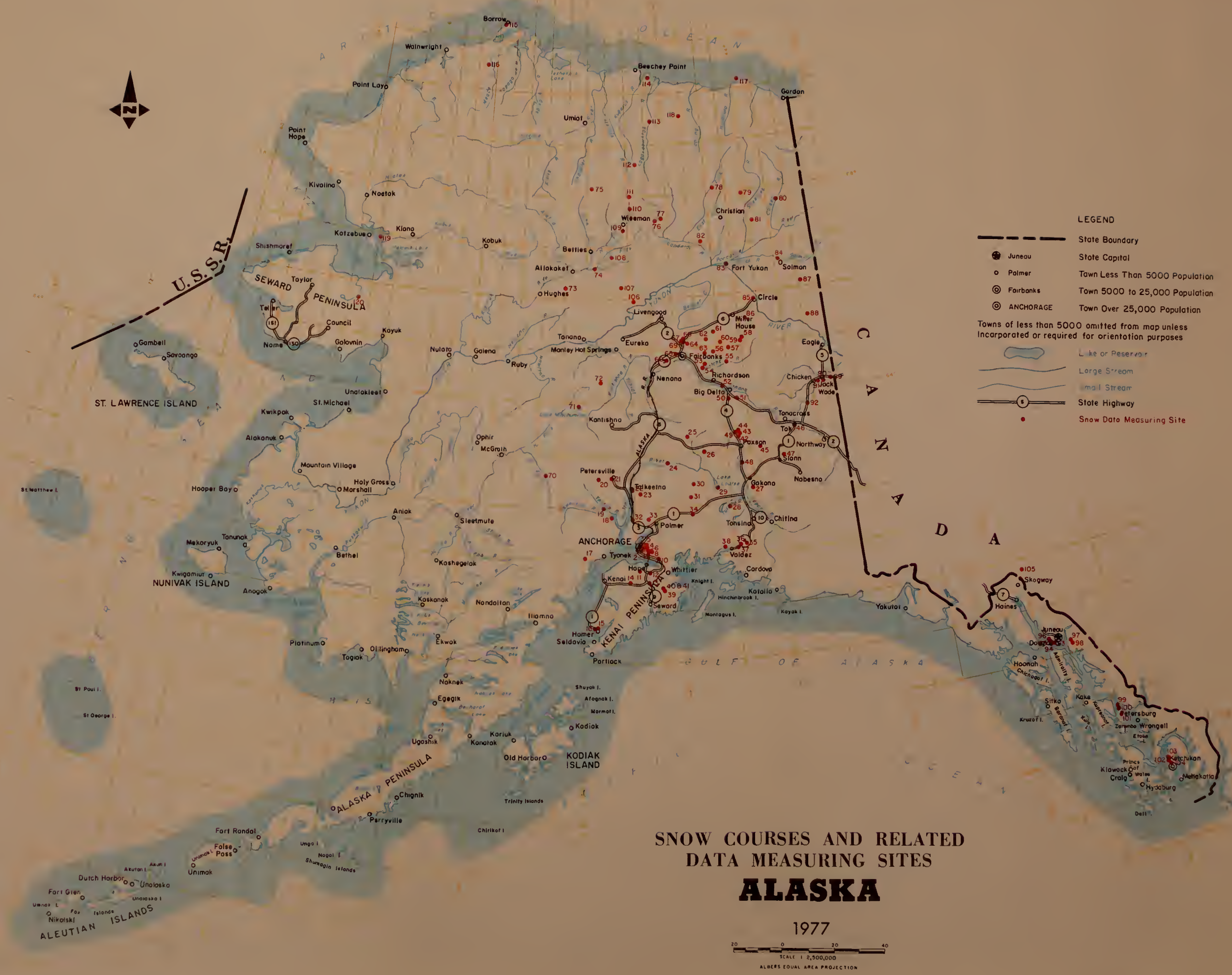
No.	Location T. R. S.	Name	Elev.	Site Description	Date	Depth* in.	Water* in.	Den. %
1	4N 45W 5	Pt. Lay	10	Coastal Plain tundra	4-18	25.2	8.6	.34
2	2N 44W 7	Lake nr Kukpowruk R.	30	Drift on east bank of lake over ice	4-19	43.7	18.8	.43
				Tundra east of lake	4-19	8.7	3.1	.36
3	3S 42W 1	Kiklupiklak Hills	480	Kokolik R channel over ice	4-19	7.9	2.4	.31
				River terrace willows	4-19	26.4	7.4	.28
				Tundra	4-19	9.8	2.4	.24
4	1N 39W 24	Kokolik R.	290	Low foothill tundra	4-19	7.5	1.7	.23
				Left bank drift over ice	4-19	42.5	14.4	.34
5	5S 38W 27	Meat Mountain	1150	Lowland tundra in foothills	4-19	10.2	3.0	.29
6	3S 33W 7	Disappointment Creek	350	Tundra in broad valley	4-20	12.6	4.0	.32
7	13N 30W 14	Kungok R Lagoon nr Wainwright	20	Tundra adjacent to lagoon	4-23	8.7	2.8	.32
8	3S 30W 31	Lookout Ridge	1700	Tundra on upland	4-20	30.3	9.7	.32
9	9S 29W 5	Kiligwa R.	1900	Tundra on upland	4-20	31.1	10.0	.32
10	7S 27W 6	Liberator Lk.	1650	Tundra west of lake	4-20	26.4	6.3	.24
11	13N 21W 18	Atkasook	65	Tundra nr Meade R. Lake ice	4-23 4-23	12.6 3.2	3.9 .9	.31 .28
12	18N 20W 16	Niklavik Cr.	45	Coastal plain tundra	4-23	11.8	4.5	.39
13	5N 17W 16	Ishuktak Cr.	300	Upland tundra	4-23	11.8	3.4	.28
14	3S 18W 3	Birthday Pass	1270	Upland tundra	4-27	24.8	6.5	.26
15	10S 21W 14	Ekakevik Mt.	1950	Upland tundra	4-27	26.0	6.8	.26
16	22N 17W 16	Mayoeak R nr Barrow	10	Coastal plain tundra	4-22	8.7	3.1	.36
17	6S 17W 17	Etivuk R.	980	South end gravel airstrip	4-21	18.9	4.7	.25
18	31N 12E 2	Etivlik Lake	2070	Snow over lake ice	4-27	9.5	3.1	.32
19	4S 14W 34	Colville R.	720	River channel ice	4-20	17.3	4.2	.24
				River terrace willows	4-22	26.8	4.8	.18
20	7N 13W 22	Lake nr Oumalik R.	165	Tundra at edge of lake	4-22	8.3	2.6	.32
21	4N 13W 16	Lake nr Bronx Cr.	250	Tundra at edge of lake	4-22	15.8	4.6	.29
22	16N 11W 17	S. Simpson well site	10	Coastal plain tundra	4-22	6.7	2.1	.32
23	20N 11W 27	Cape Simpson	10	Coastal plain tundra	4-22	7.1	2.1	.30
24	4S 11W 5	Knifeblade Rdg.	1300	Tundra on upland	4-21	22.4	6.0	.27
25	1N 10W 8	Watermelon L.	350	Tundra at edge of lake	4-22	20.9	5.8	.28
26	30N 18E 10	Kakivilak Cr.	2100	Low willow terrace	4-27	21.3	4.8	.23
27	3S 8W 1	Kimikpak Ridge	900	Tundra on upland	4-21	22.4	5.4	.24

* Provisional data from U. S. Geological Survey.

No.	Location T. R. S.			Name	Elev.	Site Description	Date	Depth* in.	Water* in.	Den. %
28	7S	7W	21	Killik R.	900	Tundra in broad valley	4-21	21.3	5.5	.26
29	10S	7W	34	Okpikruak R.	1800	Lowland tundra	4-27	16.1	4.2	.26
30	11N	6W	17	Kealon Cr.	130	Tundra on coastal plain	4-22	12.2	3.8	.31
31	18N	5W	17	Lonely	15	Coastal plain tundra	4-22	9.1	3.1	.34
32	14N	1W	18	Kogru	20	Coastal plain tundra	4-22	6.7	2.1	.31
33	11N	1W	23	Fish C Well St.	75	Lake ice	4-22	6.3	2.3	.37
						Tundra at edge of lake	4-22	9.8	2.9	.29
34	1S	1W	9	Umiat	300	Low willows on high terraces of Colville R.	4-22	21.6	4.8	.22
35	10N	5E	18	Nuiqsut	40	Low willows on high terraces of Colville R.	4-22	14.2	3.7	.26
36	11S	2W	5	Castle Mountain	2100	Upland tundra	4-24	12.2	3.7	.30
37	13S	1E	8	Confusion Cr.	2700	Broad upland tundra	4-18	21.0	5.6	.27
38	5S	4E	29	Anaktuvuk R.	1000	Lowland tundra	4-24	26.8	6.6	.25
39	15S	2E	20	Anaktuvuk Pass (SCS course)	2100	Willows along Contact at SE end of airstrip	4-18	30.7	5.8	.19

* Provisional data from U. S. Geological Survey.

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LEGEND

- State Boundary
- Juneau State Capital
- Palmer Town Less Than 5000 Population
- Fairbanks Town 5000 to 25,000 Population
- ANCHORAGE Town Over 25,000 Population
- Towns of less than 5000 omitted from map unless Incorporated or required for orientation purposes
- Lake or Reservoir
- Large Stream
- Small Stream
- State Highway
- Snow Data Measuring Site

SNOW COURSES AND RELATED DATA MEASURING SITES

ALASKA

1977

SCALE 1:2,500,000
ALBERS EQUAL AREA PROJECTION

INDEX OF ALASKA SNOW COURSES

MAP NO.	COURSE NAME	COURSE NO. *	ELEV.	LAT.	LONG.	MEAS. DATES *	MEAS. BY *	MAP NO.	COURSE NAME	COURSE NO. *	ELEV.	LAT.	LONG.	MEAS. DATES *	MEAS. BY *
1	Arctic Valley #1	49MM1	500	61°13'N	149°40'W	2,3,4,5	c	76	Chandalar Lake	48SS1A	2040	67°30'N	148°30'W	3,4	a
2	Arctic Valley #2	49MM2	1000	61°13'N	149°37'W	2,3,4,5	c	77	Squaw Lake	48SS2a	2150	67°33'N	148°15'W	3,4	a
3	Arctic Valley #3	49MM3	2030	61°14'N	149°35'W	2,3,4,5	c	78	Arctic Village	45TT1A	2300	68°05'N	145°35'W	3,4	a
4	Arctic Valley #4	49MM4	2330	61°14'N	149°33'W	2,3,4,5	c	79	Koness Lake	44SS1A	1790	67°55'N	144°08'W	3,4	a
5	Arctic Ski Bowl	49MM5	3000	61°15'N	149°31'W	2,3,4,5	c	80	Coleen River	42SS1A	1100	67°44'N	142°28'W	3,4,7	a
6	Ship Creek	49MM7MPS	1750	61°08'N	149°28'W	2,3,4,5	a	81	Vundik Lake	43SS1a	950	67°23'N	143°45'W	3,4	a
7	Indian Pass	49MM8A	2350	61°05'N	149°29'W	2,3,4,5	a	82	Venetie	46SS1A	610	67°03'N	146°25'W	3,4,7	a
8	Bird Creek	49MM6A	2350	61°06'N	149°20'W	2,3,4,5,7	a	83	Fort Yukon	45RR1AM	430	66°35'N	145°15'W	3,4,7	a
9	South Campbell Creek	49MM11	1200	61°08'N	149°42'W	2,3,4,5	a	84	Black River	42RR1A	650	66°36'N	142°45'W	3,4,7	a
10	Mt. Alyeska	49LL15S	1200	60°57'N	149°05'W	2,3,4,5	a,b	85	Circle City	44QQ3A	600	65°50'N	144°05'W	3,4,7	a
11	Bertha Creek	49LL2	850	60°45'N	149°51'W	2,3,4,5	a	86	Circle Hot Springs	44QQ5	860	65°29'N	144°39'W	3,4	a
12	Kenai Summit	49LL3	1390	60°40'N	149°28'W	2,3,4,5	a	87	Dempsey Creek	41RR2A	950	66°06'N	141°48'W	3,4	a
13	Moose Pass	49LL4	700	60°31'N	149°30'W	2,3,4,5	a	88	Nation River	41QQ1a	3050	65°25'N	141°40'W	3,4	a
14	Jean Lake	50LL1	620	60°31'N	150°11'W	2,3,4,5	a	89	Eagle Village	41PP1A	900	64°08'N	141°08'W	3,4,7	a
15	Bridge Creek (UP)	51KK1	1300	59°42'N	151°28'W	3,4,5	a	90	Boundary	41PP3A	3300	64°05'N	141°27'W	3,4	a
16	Bridge Creek (LO)	51KK2	1100	59°40'N	151°32'W	3,4,5	a	91	Chicken Airstrip	41PP2A	1650	64°05'N	141°45'W	3,4,7	a
17	McArthur	52LL1A	120	61°00'N	152°00'W	2,3,4,5	a,c	92	Mt. Fairplay	42001a	3100	63°42'N	142°17'W	3,4,5	a
18	Alexander Lake	50MM1A	200	61°45'N	150°54'W	2,3,4,5	a,c	93	Douglas Ski Bowl	34JJ1	1640	58°16'N	134°27'W	3,4,5	b
19	Skwentna	51MM1A	160	61°58'N	151°12'W	2,3,4,5	a,c	94	Cropley Lake	34JJ2	1650	58°16'N	134°31'W	1,2,3,4	b
20	Chelatna Lake	51NN1a	1650	62°31'N	151°29'W	2,3,4,5	a,c	95	Eagle Crest	34JJ3	1000	58°17'N	134°32'W	1,2,3,4	b
21	Peters Hills	50NN1a	2010	62°31'N	150°57'W	2,3,4,5	a,c	96	Fish Creek	34JJ4	500	58°19'N	134°33'W	1,2,3,4	b
22	Talkeetna	50NN2	350	62°18'N	150°05'W	2,3,4,5	a,c	97	Upper Long Lake	33JJ2aS	1000	58°11'N	133°53'W	3,4,5,6,7	e
23	Bald Mtn. Lake	49NN1A	2150	62°15'N	149°45'W	2,3,4,5	a,c	98	Speel River	33JJ3A	280	58°09'N	133°43'W	3,4,5,6,7	e
24	Fog Lakes	48NN2A	2250	62°47'N	148°29'W	2,3,4,5	a,c	99	Petersburg Reservoir	32HH1	550	56°47'N	132°56'W	2,3,4,5	b
25	Monahan Flat	47001A	2710	63°18'N	147°39'W	2,3,4,5	a,c	100	Mitkof Island	32HH2	1050	56°46'N	132°56'W	2,3,4,5	b
26	Clearwater Lake	46NN1A	3100	62°59'N	146°58'W	2,3,4,5	a,c	101	Crystal Lake	32HH3	1375	56°36'N	132°50'W	2,3,4,5	b
27	Sanford River	45NN2A	2280	62°13'N	145°04'W	2,3,4,5	a,c	102	Harriet Top	31GG1	2000	55°29'N	131°37'W	3,4,5	b
28	St. Anne's Lake	46MM1A	1990	61°53'N	146°03'W	2,3,4,5	a,c	103	Hunt Saddle	31CC2	1500	55°30'N	131°37'W	3,4,5	b
29	Lake Louise	46NN2A	2400	62°17'N	146°30'W	2,3,4,5	a,c	104	Lake Shore	31CG3	660	55°29'N	131°36'W	3,4,5	b
30	Oshetna Lake	47NN1A	2950	62°23'N	147°29'W	2,3,4,5	a,c	105	Log Cabin (B.C.)	34KK1	2880	59°45'N	134°58'W	3,4,5	e
31	Little Nelchina	47NN2a	4160	62°07'N	147°36'W	2,3,4,5	a,c	106	Five Mile Camp	49RR1	400	65°55'N	149°48'W	2,3,4,5	i
32	Willow Airstrip	50MM2	150	61°45'N	150°03'W	2,3,4,5	a,c	107	Thirty Mile	50RR2a	1300	66°13'N	150°15'W	2,3,4,5	i
33	Independence Mine	49MM10	3300	61°45'N	149°25'W	3,4,5	a	108	Prospect Creek	50RR1	980	66°47'N	150°45'W	2,3,4,5	i
34	Sheep Mountain	47MM2	2900	61°47'N	147°30'W	3,4,5	a	109	Cold Foot Camp	50SS1	1000	67°16'N	150°10'W	1,2,3,4	i
35	Tsaina River	45MM4	1500	61°12'N	145°30'W	3,4,5	a	110	Dietrich Camp	49SS1A	1550	67°42'N	149°45'W	2,3,4,5	i
36	Worthington Glacier	45MM2	2400	61°10'N	145°45'W	3,4,5	a	111	Table Mountain	49SS3a	2200	67°58'N	149°45'W	2,3,4,5	i
37	Lowe River	45MM3	550	61°06'N	145°50'W	3,4,5	a	112	Toolik River	49TT1	3100	68°37'N	149°26'W	7	d
38	Valdez	46MM2	50	61°08'N	146°20'W	2,3,4,5	a	113	Sagwon	48UU1	1000	69°26'N	148°34'W	7	d
39	Wolverine Clacier (A)	48LL1	2130	60°23'N	148°54'W	1,2,4,5,6,7	g	114	Prudhoe Bay	48VV1	30	70°15'N	148°30'W	7	h
40	Wolverine Clacier (B)	48LL2	3610	60°25'N	148°55'W	2,3,4,5,6,7	g	115	Barrow	56WW1	15	71°20'N	156°40'W	7	h
41	Wolverine Clacier C	48LL3	4430	60°25'N	148°55'W	1,2,4,6,7	g	116	Meade River	57VV1	200	70°29'N	157°25'W	7	h
42	Gulkana Clacier A	45006	4590	63°15'N	145°29'W	2,3,4,5,6,7	g	117	Barter Island	43VV1	15	70°08'N	143°37'W	7	h
43	Gulkana Clacier B	45007	5480	63°17'N	145°26'W	2,3,4,5,6,7	g	118	Kavik River	47UU1	200	69°30'N	147°00'W	7	h
44	Gulkana Clacier C	45008	6360	63°19'N	145°29'W	5,6,7	g	119	Candle	61QQ1	20	66°55'N	161°56'W	3,4	a,f
45	Mankomen Lake	44NN1	3050	63°00'N	144°32'W	2,3,4,5	a	120	Kugruk River	62QQ1	225	65°40'N	162°27'W	3,4	a,f
46	Tok Junction	43001	1650	63°18'N	143°00'W	2,3,4,5	a								
47	Mentasta Pass	43NN1	2430	62°51'N	143°30'W	2,3,4,5	a								
48	Haggard Creek	45NN1A	2540	62°42'N	145°28'W	2,3,4,5	a								
49	Fielding Lake	45001A	3000	63°18'N	145°33'W	2,3,4,5	a								
50	Ft. Greely	45005	1420	63°57'N	145°45'W	1,2,3,4,5,7	a								
51	Granite Creek	45004	1240	63°57'N	145°24'W	1,2,3,4,5,7	a								
52	Big Delta	45PP1	980	64°14'N	145°58'W	2,3,4,5	a								
53	French Creek	46PP2MA	2010	64°43'N	146°40'W	2,3,4,5,7	a								
54	Little Salcha	46PP3	1500	64°38'N	146°44'W	2,3,4,5,7	a								
55	Caribou Mine	45PP2A	1115	64°40'N	145°40'W	2,3,4,5,7	a								
56	Munson Ridge	46PP1AP	3100	64°52'N	146°13'W	2,3,4,5,7	a								
57	Teuchet Creek	45PP3	1640	64°57'N	145°31'W	2,3,4,5	a								
58	Upper Chena	44QQ1AP	3000	65°07'N	144°55'W	2,3,4,5,7	a								
59	Lower Chena	44QQ6	2000	65°04'N	144°59'W	2,3,4,5,7	a								
60	Monument Creek	45QQ2	1900	65°03'N	145°55'W	2,3,4,5	a								
61	Mt. Ryan	46QQ1AP	2950	65°16'N	146°07'W	2,3,4,5,7	a								
62	Little Chena	46QQ2AP	2200	65°08'N	146°32'W	2,3,4,5,7	a								
63	Colorado Creek	46PP4S	750	64°52'N	146°39'W	1,2,3,4,5,7	a								
64	Cleary Summit	47QQ1A	2230	65°03'N	147°24'W	1,2,3,4,5,7	a								
65	Yak Pasture	47PP1	540	64°52'N	147°55'W	2,3,4,5	a								
66	Bonanza Creek	48PP1	1150	64°45'N	148°20'W	2,3,4,5	b								
67	Haystack Mtn.	47QQ2	1950	65°08'N	147°38'W	2,3,4,5	d								
68	Caribou Creek	47QQ3	1440	65°09'N	147°35'W	2,3,4,5	d								
69	Poker Creek	47QQ4S	1025	65°08'N	147°32'W	2,3,4,5,7	d								
70	Farewell Lake	53NN1A	1090	62°34'N	153°35'W	3,4	a								
71	Lake Minchumina	52001A	730	63°53'N	152°18'W	3,4	a								
72	Wien Lake	51PP1A	1020	64°22'N	151°18'W	3,4	a								
73	Lake Todatonten	52RR1a	980	66°10'N	152°55'W	3,4	a								
74	Bettles Field	51RR1A	640	66°35'N	151°32'W	3,4	a								
75	Anaktuvuk Pass	51TT1A	2100	68°09'N	151°41'W	3,4	a								

LEGEND

* Numerals 1,2,3,4,5, and 6 refer to January 1, February 1, March 1, April 1, May 1, June 1, and 7 - for special dates.

* Letters refer to Agency that secures the snow survey, as follows:

- a. Soil Conservation Service
- b. Forest Service
- c. U.S. Army Corps of Engineers
- d. U.S. Army Cold Regions Research & Engineering Lab
- e. Alaska Power Administration
- f. Bureau of Land Management
- g. U.S. Geological Survey
- h. University of Alaska
- i. Alaska Pipeline Office

* Letters following the snow course no. refer to:

- * A. Snow course and aerial stadia marker
- * a. Aerial stadia marker only
- M. Soil Moisture Station
- P. Precipitation Storage Cage
- S. Snow Pillow

AGENCIES AND ORGANIZATIONS COOPERATING IN ALASKA SNOW SURVEYS

FEDERAL

Department of Agriculture
Forest Service

Institute of Northern Forestry
North Tongass National Forest
South Tongass National Forest
Chugach National Forest

Department of Commerce
National Oceanic and Atmospheric Administration
NOAA National Weather Service

Department of Defense
U.S. Army Corps of Engineers
U.S. Army Cold Regions Research and Engineering Laboratory

Department of Interior
Bureau of Land Management
Geological Survey
Alaska Power Administration

STATE

Alaska Department of Fish and Game
Alaska Department of Highways
Alaska Department of Natural Resources, Division of Parks

Alaska Soil Conservation District
Fairbanks Soil Conservation Sub-district
Homer Soil Conservation Sub-district
Kenai-Kasilof Soil Conservation Sub-district
Kenny Lake Soil Conservation Sub-district
Kodiak Soil Conservation Sub-district
Montana Soil Conservation Sub-district
Palmer Soil Conservation Sub-district
Salcha-Big Delta Soil Conservation Sub-district
Wasilla Soil Conservation Sub-district

University of Alaska

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